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ABSTRACT

Admission to and graduation from health profession schools by graduates of historically black colleges and universities (HBCU) were studied, with a focus on the University of Mississippi Medical Center (UMMC) and Howard University's Medical (HUMS) and Dental Schools (HUDS). Site visits and interviews were also conducted with the pre-health program directors of the following feeder institutions: Howard University, Xavier University, Morehouse College, Tougaloo College, Jackson State University, and the University of Mississippi, Oxford. Findings revealed by UMMC and HUMS/HUDS admission data included: (1) HBCU students had significantly lower admission rates at UMMC than non-HBCU students; and (2) Medical College Admission Test scores accounted for differences in admissions. The interviews focused on common elements of successful programs preparing minorities for health careers, including: summer programs, course loads and sequencing, course content, independent aggressive learning, staffing, support services, study skills, test preparation, counseling, application assistance, peer/HBCU networks, and government/foundation funding. In addition to recommendations for undergraduate and graduate study, the following interview protocols are appended: undergraduate faculty, medical student, professions school faculty, and administrator. (SW)

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A FINAL REPORT ON HISTORICALLY BLACK COLLEGE AND UNIVERSITY GRADUATES' ADMISSION TO AND GRADUATION FROM HEALTH PROFESSION SCHOOLS

Prepared by:

Anita F. Allen Associates

For:

Health Resources Administration

of the Department of Health and Human Services

HRSA 84-282 (P)

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EXECUTIVE SUMMARY

Anita F. Allen Associates (AFA) conducted a study of historically black college and university graduates' admission to and graduation from health profession schools. Its findings are based on analyses of admissions data provided by the Howard University Medical (HUMS) and Dental Schools (HUDS) and the University of Mississippi Medical Center (UMMC); data generated by interviews with students, faculty and administrators of the Howard University Medical School and the University of Mississippi Medical Center; and pre-health directors of schools which act as feeder institutions for the medical schools, Howard University, Xavier University, Morehouse College, Tougaloo College, Jackson State University and the University of Mississippi.

Analyses of admissions data produced a number of significant findings. They included:

- Non-HBCU students had significantly higher admission rates at UMMC than HBCU students;
- Admission differences were due to the former's significantly higher MCAT scores, a difference which increased substantially (in excess of one point) in one year;
- The greatest disparity in MCAT subtest scores of HBCU applicants (versus those of non-HBCU black applicants and whites) occurred in reading;
- Howard University, Morehouse College and Xavier University produced significantly more admits to HUMS than all other HBCUs combined; and
- The number of HBCU students to HUDS declined significantly, despite a dramatic lowering of DAT and GAP cut-off scores required for admissions.

Interviews focused on strategies for raising MCAT scores and developing reading skills. They also were designed to identify the common elements of successful HBCU pre-health programs and compared them with the approaches typically taken by other HBCUs. Analyses of interview data revealed that:

- Summer programs for potential medical students and pre-entry programs for matriculating students are extremely useful vehicles for establishing study skills, providing counseling to promote students' psychological adjustment, teaching problem-solving and creative thinking, building students' medical vocabularies, increasing the time on task in first year courses and providing other services that enhance the likelihood of an HBCU student's admission to and graduation from a health profession school;

- Less strenuous freshman course loads that limit both the number of hours and science courses a student takes appear to increase the number of HBCU students qualifying to enter health profession schools;

- Completion of the basic core curriculum in two years allows students to develop the backgrounds they need in order to take entrance examinations at the beginning of their third year. It also provides students with ample time to prepare for a second attempt, if initial results are not satisfactory;

- Courses should provide opportunities for students to achieve mastery of the subject matter, develop problem-solving abilities, become familiar with the types of items that are included on entrance examinations, develop self-help and group problem-solving capabilities, develop study skills capabilities, engage in systematic review of the subject matter and emphasize the related nature of science learning objectives;

- Many HBCU students who attend majority health profession schools tend to isolate themselves, resist offers of academic assistance, fail to exhibit independent aggressive learning styles and fail to make administrators aware of their concerns regarding perceived inadequacies in the Minority Affairs Programs;

- HBCUs that successfully prepare large numbers of students to attend health profession schools address the problem of poor entrance test scores by offering preparation courses developed by their faculty or providing access to commercial preparation courses;

- HBCU students frequently have fewer opportunities for developing insights into the medical profession and the commitment it requires; thus, the rigors of health profession schools may be more burdensome than they otherwise would be;

- Students from many HBCUs have a disproportionate number of late and incomplete applications. This appears to be the result of insufficient institutional resources to handle requests for transcripts and recommendations expeditiously and students' failure to monitor completion of their application packages;

- The lack of strong professional associations and HBCU networks prevents widespread dissemination of the strategies for successful pre-health training that have been developed at Xavier, Morehouse and Howard Universities;

- Federal foundation funding have been key elements in the development of successful HBCU pre-health programs; however, potential problems may result if funding sources are not sensitive to the need for meaningful participation by non-HBCU personnel who have developed successful approaches for coping with the problem of minorities' admission to health profession schools. These sources must also take into consideration grantees' commitment to achieving excellence in pre-health and the potential risks inherent in small institutions' efforts to simultaneously achieve excellence in a broad range of science and engineering areas.

The report recommends that the Health Resources Administration:

1. Provide monies for institutions capable of and interested in replicating exemplary program models;

2. Fund regional workshops for all HBCU pre-health directors;

3. Print and disseminate an applicant's information kit that provides strategies that students can use to increase the likelihood of their successful application to health profession schools; and

4. Fund a contract whose objective is to build a comprehensive data base that would provide information on and facilitate research on the factors associated with HBCU graduates' admission to and graduation from health profession schools.

CHAPTER 1: INTRODUCTION

In a literature review prepared by Anita F. Allen Associates (AFA) in Phase I of the current study, it was reported that:

- During the past two decades, there has been an increased awareness of the dismal status of health care among blacks and other minority groups. Based on research evidence which indicates that black health care practitioners provide a subtantial portion of the health care services to the black community, it has been generally accepted that a critical contributing factor to this problem of inadequate health care is that there are not enough black health care providers. Consequently, preparing black and other minority health care practitioners to meet these needs has become a very important issue.

- In the late 1960s, in response to these needs, health career educational institutions began to provide undergraduate and graduate programs for the recruitment, admission, retention, and graduation of minority health care practitioners.

- These programs focused on increasing the number of blacks in health care professions to the same percentage as in the overall population. Increased admissions and enrollment in professional schools by blacks and other minorities shows that the programs were effective. (Enrollment statistics for medical schools, for example, during the decade of the late 1960s to late 1970s, showed that the actual numbers as well as the proportion of total enrollment of blacks doubled during that period.)

Since the late 1970s, however, a number of conditions have changed, and as a result, the proportion of minority health professionals is expected to decline over the next decade. Those conditions include:

- Rising criticism and elimination of special programs in the face of the Supreme Court decision against racial quotas and increased political conservatism;

- Increased tuition, reductions in student financial aid and an economic recession that had disproportionately adverse effects on minorities;

- Deterioration of the public schools in which the vast majority of black and other minorities are enrolled; and

- The attractiveness of other professions (e.g., engineering) that draw from the same pool of technically-oriented students, actively recruit minorities and offer considerable financial rewards upon completion of the B.S. degree.

In addition to these factors, there is growing concern that student matriculants at historically black colleges and universities (HBCUs) face several additional obstacles in gaining admission and graduating from health profession schools:

- Fiscal conditions of those institutions in many instances preclude the development of the institutional capabilities required to adequately prepare students for admission to and retention in health profession schools;
- Questionable effectiveness of specially-funded programs to increase the quality of pre-health profession students at some of those institutions; and
- Well-prepared middle class blacks are increasingly enrolling in majority undergraduate institutions.

Despite concerns about the admission and graduation of minority health professionals in general, the gravity of the situation confronting HBCU students aspiring to health profession careers dictated that those institutions be the primary focus of the Study. Nevertheless, it was anticipated that the assessment would yield valuable information for the wide range of audiences interested and involved in the training of all minority health professionals.

NEED FOR PROPOSED STUDY

The Health Resources Administration's (HRA) request for a study of HBCU students' admission to and graduation from health profession schools is timely for two reasons:

- Since health professionals receiving their undergraduate training at HBCUs are disproportionately responsible for health care delivery among blacks and poor inner-city residents, the federal government has an obligation to address and improve those institutions' training capabilities; and
- If federal priority is still to be directed at improving access to health training and careers for minorities, HBCUs' educational practices should reflect the most efficacious and effective processes for the accomplishment of these objectives. Therefore, systematic knowledge of factors affecting admission and retention processes in increasing minority participation in health careers is needed.

The assessment of health profession schools' admission and graduation data is a valuable tool for determining (1) the magnitude of the admissions/retention problem; (2) the strengths and

weaknesses of current minority applicants and matriculants; and (3) the institutions -- both majority and HBCU -- that appear to be most effective in producing successful minority health professionals. Additional insights into the problem and approaches to its solution can then be determined through indepth study of individual undergraduate institutions and health profession schools.

OUTLINE OF THE REPORT

Chapter 2 describes the methodology employed in this Study. It discusses issues that underlie decisions regarding specific aspects of the design and presents the site selection and data collection rationale and procedures.

Chapter 3 presents findings based on analyses of admission data, site visit observations and interviews and telephone interviews. Where possible, findings based on comparative analyses of various types of applicants to health profession schools; undergraduate institutions' approaches to pre-profession health preparation for minority students; and activities supported by externally (to universities) funded health training professions will be provided.

Chapter 4 discusses conclusions and recommendations for the undergraduate and graduate training of potential minority health professionals. The report closes with an appended site visit report that provides detailed observations and recommendations that guided the subsequent phases of the Study and may be particularly useful to the individual institutions involved in that visit.

SOME CAUTIONARY NOTES

A number of interesting and important findings are presented in this report. However, the investigation of application and admission rates is based on data from only two health profession schools and should be expanded as a means of determining the true magnitude of the problem. Also, since the data-based portion of the Study is limited to medical and -- to a lesser degree -- dental schools, questions regarding minority admissions and graduations from schools of podiatry, pharmacy, etc., remain unanswered. The high incidence of missing data -- particularly for Howard University's Dental School -- also suggests the wisdom of both follow-up studies and federal support for the establishment of comprehensive data bases within health profession schools.

Finally, care must be exercised in implementing the recommendations. While recommended training approaches are based on the common elements of exemplary programs, a better understanding of the implications of situational variables and constraints must be developed prior to the government's investing substantial resources.

CHAPTER 2: METHODOLOGY

AFA, in conjunction with the HRA Project Officer, selected health profession schools at two sites, Howard University and the University of Mississippi Medical Center[1] to provide application and admissions data. Based on analyses of those data, site visit interviews were conducted with medical school[2] administrators, faculty, and students. Site visit and telephone interviews were also conducted with the pre-health directors of the following feeder institutions: Howard University, Xavier University, Morehouse College, University of Mississippi, Tougaloo College and Jackson State University. Interview protocols are appended.

[1]These two institutions were selected in an effort to isolate differences that might be a function of their public vs. private status, as well as their majority/HBCU institutional settings.

[2]Because of the incomplete second year data provided by the Howard University Dental School, trends other than the overall admission and "AA/PAT Ave" subtests could not be computed. Thus, site visits were limited to the two medical schools. Interviews in those contexts, however, confirmed AFA's interpretations of the limited Howard University Dental School data discussed in Chapter 3.

CHAPTER 3: FINDINGS

ADMISSIONS DATA

Analyses of admissions data provided by Howard University's Medical (HUMS) and Dental Schools (HUDS) and the University of Mississippi Medical Center (UMMC) served as the basis for addressing the questions:

- Is there a decline in the number of minorities applying and being admitted to medical and dental schools?
- Is there evidence that minorities, once admitted, are less likely than non-minorities to graduate?
- Are there differences between blacks graduating from HBCUs versus majority undergraduate schools?

Applications and Admissions

Analyses of UMMC, HUMS and HUDS applications and admissions data produced a number of statistically and educationally significant findings with respect to the questions posed above. While inconclusive because of the data limitations discussed in the Methodology Chapter, they nevertheless suggested several hypotheses that were pursued in the context of the site visit observations and interviews discussed in the next section. Findings included:

- HBCU student applications to each of the three professional schools remained relatively constant over time. A statistically significant decline (58 vs. 38) in the total number of black applicants to UMMC from 1982 to 1983 appeared to be a one year phenomenon, since 1984 applications increased to 53.

With respect to admissions, however, consistent differences were discovered. They included:

- Non-HBUC students had significantly higher admission rates at UMMC than HBCU students;
- Admission differences were due to the former's significantly higher MCAT scores, a difference which increased substantially (in excess of one point) in one year;
- The greatest disparity in MCAT subtest scores of HBCU applicants (versus those of non-HBCU black applicants and whites) occurred in reading;
- Howard University, Morehouse College and Xavier University produced significantly more admits to HUMS than all other HBCUs combined; and

- The number of HBCU students admitted to HUDS declined significantly, despite a dramatic lowering of DAT and GPA cut-off scores required for admissions.

These findings (see tables that follow) suggested a series of questions that were explored in the context of subsequent interviews and observations. They included:

- What factors are responsible for Howard, Xavier and Morehouse's success in producing applicants who are admitted to and graduated from health profession schools?
- What was responsble for the MCAT gains evident among non-HBCU students?
- What is responsible for the apparent magnitude of the reading problem? What is being done to address it?
- Why is the number and quality of dental school applicants declining so dramatically?
- Why have medical school applications and admissions shown the predicted decline?

TABLE 1
A COMPARISON OF UHMC's, HBCU AND NON-HBCU
BLACK APPLICANTS AND ADMITS
(1982 and 1983)

	HBCU Graduates	Non-HBCU Graduates
Number of Applicants	68	28
Number of Admits	6	12
Applicant's MCAT	4.87	6.12

TABLE 2
A COMPARISON OF HUDS' APPLICANTS AND ADMITS
1981 VERSUS 1983

	1981	1983
Number of Applicants	114	106
Number of Admits	48	23
Science GPA	2.85	2.44
DAT Academic Average	2.22	1.39

TABLE 3
A COMPARISON OF HUMS' APPLICANTS AND ADMITS FROM HOWARD, MOREHOUSE AND XAVIER vs. OTHER HBCU UNDERGRADUATE SCHOOLS

	Howard Morehouse Xavier	Other HBCUs
Number of Applicants (1982)	201	314
Number of Admits (1982)	40	20
Percentage Admitted (1982)	19.9	6.3
Number of Applicants (1983)	178	337
Number of Admits (1983)	40	28
Percentage Admitted (1983)	22.5	8.3
Percentage of Students in High GPA/ High MCAT Quadrant	73.3	73.7

TABLE 4
A COMPARISON OF HUMS' 1982 AND 1983 HBCU APPLICATION AND ADMISSION DATA

	1982	1983
Number of Applicants*	515	505
Number of Admits	67	76
Science GAP (Admits)	3.28	3.27
MCAT (Admits)	6.7	6.9

INTERVIEW AND OBSERVATION DATA

Findings presented herein are based on input obtained in both undergraduate and health profession school settings. Representatives of minority and majority institutions of both types of schools were interviewed. The sections that follow describe the common elements of successful programs preparing minorities for health careers. Inclusion of topics under the two major headings is somewhat arbitrary in that student preparation activities are mutually reinforcing. Strategies for achieving important instructional and learning objectives must be integrated throughout both class/laboratory and support service approaches.

*Includes only those with complete data; thus, applicants are reduced by 43 and 18 for the 2 years.

Teaching and Learning Materials and Practices

Summer Programs

Two types of summer programs are typically found in settings that have dramatically increased the number of minority students admitted to and graduated from health profession schools.

The pre-entry programs for students already accepted to health profession schools typically includes several of the following emphases: (1) study skills; (2) psychological adjustment (e.g., stress management); (3) an early start on first-year courses; (4) medical vocabulary; (5) problem-solving/creative thinking; and (6) electives. This nine-week program served students who had been admitted to UMMC and other medical schools.

Pre-freshman programs also exist for undergraduates. These programs and those for potential health profession students (i.e., rising juniors and seniors) differ little from their health profession school counterparts. The notable exceptions are that the former usually include English, and the latter, MCAT preparation.

As the reader examines observations that are cited in the UMMC site visit report, it should become apparent that whatever the benefits of a pre-entry summer program, its emphases must be continued as students matriculate. For example, student weaknesses that are diagnosed in the summer program cannot be ignored during the academic year until students fail their first tests.

Course Loads and Sequencing

Nearly all undergraduate programs that are successful in producing minority students who get admitted to and succeed in health profession schools are predicated on the notion that freshmen should not be overloaded. Most suggest that 14-15 hours is a reasonable load, with not more than two of the students' courses being in science. Most of these institutions then increase both hours and science courses as the student progresses.

Other HBCUs, which are typically less successful, require students to take more hours and more science courses. They adhere to the philosophy that students should have the broadest possible background in science and should get accustomed to a workload similar to that which they will likely face in a health profession school. Because of the fiscal crunch that they face, some HBCUs require that students take more hours, since they are allocated state funds on the basis of number of hours in which students enroll.

Some respondents suggested the wisdom of having students complete a basic core curriculum in the first two years (which is possible with lower course loads) in order that students be in a position to take the professional aptitude test at the beginning of the junior year. This strategy allows a year for students to improve on areas in which they are deficient and take the test again as seniors.

The issue about which there was the least agreement was the value of calculus to pre-health students. While most respondents had opinions that were consistent with institutional policy, the one which had definitive data found that there was no relationship between having taken calculus and students' MCAT scores. The question of whether other advantages accrue (e.g., better physics grades) had not been addressed. Intra-institutional research is certainly recommended to determine the effect of one's taking specific courses and admission to and success in the health professions. Several respondents thought that chemistry is probably the most important subject area for students to master and had, therefore, recommended that students take the general course for undergraduate majors rather than the one for pre-health.

Course Content

Respondents from HBCUs that are successful in producing applicants to and graduates of health profession schools express considerable agreement on the wisdom of changing the traditional pre-health course content -- regardless of their success in bringing about the change within their own institutions. Change is acknowledged to be a difficult process that must be defended even after implementation and resultant success. Where changes have been implemented, they involve the alteration of one basic freshman science course to include elements typically thought of as student support services. These courses might include:

- Mandatory problem-solving sessions -- These mandatory sessions, which are in addition to any laboratory that might be associated with the course, involve students working on homework and test items that have proven difficult for them. Tutors are available to provide any needed assistance. These sessions are designed to help students achieve mastery of the subject matter, thereby, avoiding the knowledge gaps that often occur when one merely passes the course, or even gets an "A." They also serve to establish hard work as the norm, building students' confidence as they master the material and acclimate students to the practice of using available assistance.

- Assignment of group problems -- By assigning problems to small groups and awarding a group grade, the approach promotes: (1) the development of peer-help techniques which are an important tool, especially for those students who attend majority health profession schools; and (2) attention to care detail and double-checking. Since group grades are awarded, students are more cognizant of the importance of those practices. Since no one wants to bear the weight of someone else's mistake, work and solutions are carefully reviewed.

- Study skills -- Skills such as time management, listening and note-taking are taught in the context of classroom discussions of content. For example, materials developed in the Howard University Department of Medical Education are widely used as a tool in building note-taking skills. The materials guide students in organizing content, identifying what is important and using independent learning to fill in what the professor did not say.

- Test preparation -- Since they are assigned small group problems that are similar to those they will encounter on the MCAT, DAT, etc., students become familiar with the types of questions they will have to answer successfully in order to gain admittance tohealth profession schools.

- Testing -- Course testing should occur early in the term in order to provide students with feedback on the extent to which they succeeded in mastering course content. Most respondents also indicated strong feelings concerning the importance of comprehensive examinations that force students to review what they learned previously and reinforce the related nature of science learning objectives. They also recommended use of the same type (e.g., multi-level multiple choice) of test item with which students will be confronted on the health profession aptitude tests.

Supplemental Instruction

Supplemental instruction most often takes the form of tutoring. Tutoring is the one support service that appears to be universally available in both the HBCU undergraduate programs and the health profession schools. Despite its availability, however, it may not be prescribed, even if diagnostic results suggest that it should be. (See "Summer Programs.") This is a practice that must be eliminated in that it fails to take advantage of early performance feedback that can help students achieve success.

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Also, students often fail to take advantage of supplemental instruction. The two principal reasons[3] are as follows: (1) They do not realize that they need it; and (2) the often negative connotations associated with the term tutoring and participation in activities so designated. The most effective approach to maximizing students' use of supplemental instruction is probably the mandatory problem-solving sessions discussed in connection with "Course Content," above. Another approach is to have instructors in basic freshman courses, and courses that have historically proven difficult, identify students in need of supplemental instruction. These students can then be sent letters citing the virtues of and inviting their participation in extra sessions that are being organized for the particular course. If student resistance is a major problem, the letters may be designed to make no specific reference to their performance problems.

Developing Independent Aggressive Learning

Some respondents indicated that, because HBCU professors know that students have reading problems, they lecture in ways that minimize the need for outside reading. They felt that by spending more time talking to students, faculty subconsciously achieved student learning objectives at the expense of helping students develop a capacity for independent learning that is a prerequisite for success in health profession schools.

There appear to be two schools of thought concerning how best to approach this problem. The first holds that freshman students need to first develop confidence and then as upperclassmen be weaned from the force-fed lectures that give them all the information required to do well in the course. The weaning process typically begins by stressing the importance of supplemental materials, then making those materials readily accessible (e.g., in a departmental library) to students in a context that has other things such as old tests to attract them; and, finally, monitoring sign-in sheets to determine who uses what -- with follow-up discussions on students' usage patterns that do not reflect their participation in the independent learning process.

Advocates of the second school argue that nothing special is needed if the course content and/or study skills courses and workshops routinely reinforce skills such as how to use the library and values such as hard work.

[3]In health profession schools, students also indicate that they do not have time. This also suggests that they feel they do not need it.

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Staffing

Pre-health programs -- in either HBCUs or majority institutions -- that successfully serve minority students are all run by full or part-time directors. Nearly all have a full-time deputy[4], whose responsibilities include counseling, and a full-time secretary.

Staffing problems may be a major factor contributing to the retention problems HBCU graduates experience in major health profession schools. Consider the scenario at UMMC:

- The Director of the Minority Affairs Program has no professional staff, is the lone black in the school and, therefore, has numerous race-related responsibilities in addition to all faculty members' concerns about research, promotion and tenure. As a result of his multiple duties and concerns, his role in addressing black students' psychological adjustment problems is necessarily minimal.

- UMMC black students' passivity is demonstrated by their not having articulated concerns regarding the inadequacy of UMMC's academic support mechanisms. They have failed to approach either the Minority Affairs Director or UMMC administrators regarding their concerns. While the Director recognizes the need for additional services, he feels that things will remain the same unless students take a more assertive posture. The validity of the Director's position is underscored by administrators' comments that they assume all is well since they have not conducted a formal evaluation (of minority affairs) and have heard nothing to indicate the existence of problems.

The extent to which the situation at UMMC may be characteristic of other major health profession schools is not clear; however, it is of sufficient importance to warrant further study.

Support Services

Basic Skills Development

Health profession aptitude test scores suggest that black pre-health students, particularly those who attend HBCUs, are weakest in the basic skills areas of reading/verbal reasoning and quantitative ability. This hypothesis is supported by the assessments of both HBCU and health profession schools' faculty. Despite

[4]Typically in majority institutions, if the director is not a minority, the deputy will be. In these instances, the deputy will be supported with Health Career Opportunity Program (HCOP) or other federal funds.

universal[5] recognition of the problem, however, there are considerable differences among institutional responses to it. The most common are:

- To teach reading in the context of a study skills course, using materials designed for compatability with the Nelson-Denny reading test whose pre- post-scores are used as a measure of skill gain;
- To teach test-taking techniques that will improve reading and quantitative scores on standardized tests;
- To address reading and quantitative skills in the context of preparation for health profession aptitude tests; and
- To teach and reinforce reading in the context of a freshman core (e.g., biology, chemistry) course.

The only specific materials for basic skills improvement recommended by undergraduate pre-health advisors were Arthur Whimbey's books that teach individuals how to develop analytical ability. Whimbey's approach stresses that care and detail are important in developing reading and quantitative skills. Its steps are:

- Show students how to read;
- Stress the importance of breaking a complete process down into little steps; and
- Provide opportunities for practice.

Study Skills

Study skills development is typically provided in a course whose focus includes a subset of the following: note-taking, test-taking, listening, time management, memorization, concentration, test anxiety reduction, reading with speed and comprehension, and overcoming tendencies to procrastinate.

Despite the availability of this service, students' use is frequently limited. Since the course is often non-credit and/or offered on an elective basis, it is perceived as requiring undue effort and detracting from the time available for studying other

[5]Some contend that the problem is not an indication of deficient reading skills but is more accurately a reflection of poor test-taking techniques (e.g., not reading the questions before reading the passages) or unfamiliarity with the types of test items that appear on the health profession aptitude tests. (See discussion of this phenomenon in the Course Content Section.)

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subjects. Thus, if they are to be effective, study skills must be integrated into core freshman courses as described in "Course Content," or offered as credit courses and made part of the required curriculm. Materials demonstrated to be effective in improving reading and other skills, when used with students similar to those in the particular target population, must be identified and used. Their success must be publicized so that other HBCUs can have access to them.

Test Preparation

As noted in the section entitled "Admissions Data," HBCU students' MCAT scores are one of the major deterrents to their being admitted to health profession schools. Despite this fact, very few HBCUs offer a preparation course, and few students are able to afford the cost associated with enrolling in a commercial course such as Kaplan.

There appear to be two plausible alternatives to the MCAT problem. One involves the use of a less expensive variation of the course available to students. At the University of Mississippi, for example, the tapes and print materials were being rented to students for a nominal fee ($40/two years) and were producing overall MCAT score gains averaging one point -- approximately the magnitude of the increase shown among non-HBCU minority applicants to UMMC. Since neither Jackson State, Tougaloo nor other HBCUs attended by UMMC student interviewees was using a preparation sequence, it can be assumed that the Graduate Admissions Preparation (GAP) was yielding positive results that contributed to score gains for non-HBCU minority applicants.

A second alternative would involve development of a preparation course based on input from professors at Xavier, Morehouse and Howard who currently teach preparatory courses for students at their and other institutions.

Counseling

Although summer programs for minority students seeking admission (e.g., rising juniors and seniors) and admitted to health profession schools often have a psychological adjustment component, the non-academic problems of HBCU students, once enrolled in health profession schools, suggest the need for more pre- and post-enrollment counseling. The UMMC scenarios presented below reveal a number of topics which counseling services should address:

- In many regards, UMMC's HBCU students' self-perceptions are typical. They feel that their preparation is stronger than it, in fact, is. Also, they often perform poorly or marginally on first exams, feel compelled to work through the problem on their own because their past experiences tell them they are bright students, and do not consider

seeking help until second exams produce the same results. Inherent in the above scenario are several important points: (1) The diagnostic aspect of the summer pre-entry program must be used to counsel students on their weaknesses and the importance of help-seeking as a means of addressing them; (2) A program stressing strategies for success (e.g., why and how to interact with faculty) such as the one operating at the University of Mississippi should be institutionalized at HBCUs, so that counterproductive perceptions and behaviors can be avoided once students enroll in health profession schools; and (3) The Minority Affairs Program must make faculty aware of the psychodynamics involved in students' perceptions and behaviors, so that they can be more objective in extending offers of help to students and/or helping students to understand the pitfalls associated with rejecting those offers.

- Isolation is evident because students feel that they must solve their own problems. To their credit they have initiated some steps (e.g., establishing a test file, encouraging the establishment of a "buddy system"). On the other hand, they are cut off from some of their most readily available resources. Many HBCU students feel that (1) white students who help them become targets of faculty retaliation; (2) non-HBCU black students are too concerned about mainstreaming with white students to associate with other black students; and (3) subjective faculty judgments about them may be adversely affected if they make known the fact that they are experiencing difficulty. Regardless of the accuracy or inaccuracy of these perceptions, they clearly have serious implications for students' performance and must be addressed by a straight-forward approach involving the Minority Affairs Office, the UMMC faculty and HBCU students.

- Because HBCUs tend to be teaching institutions, their students are less aware of the importance of faculty research as a promotional consideration. Thus, they are naive concerning a major factor underlying what many students typically perceive as inadequate faculty accessibility. Perceiving faculty as inaccessible also has more weighty consequences for HBCU students. Given the other conditions and perceptions cited in preceding sections, e.g., faculty bias in subjective judgments, they may consider the behavior racist and avoid future non-classroom interaction.

The above scenarios suggest that counseling services designed to address phenomena such as

- Stress management
- Assertiveness training

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- Self and person perception
- Peer support
- Fear of failure
- Managing racism

should be provided in both undergraduate and health professional school settings.

Anecdotal evidence suggests that orientation and counseling services in HBCU health profession schools must recognize the unique problems of upper middle class blacks whose experiences have been limited to integrated educational settings. It appears that this group experiences an undue amount of non-academic attrition resulting from an inability to cope with what for them is a new environment.

Career Information and Exposure

When compared with the experiences of students who attend majority institutions, HBCUs often have fewer opportunities to develop insights into the medical profession and the commitment it requires. Seminar series conducted by practitioners, summer employment in medical settings, travel to professional conferences, etc., require resources and a network that are simply more difficult to establish in the context of an HBCU. Thus, it is important that HBCUs receive assistance in order to develop this capability.

Application Assistance

HBCU applicants appear to have a disproportionate number of late and incomplete applications, thereby reducing the likelihood of their acceptance. Their schools are often slow in submitting transcripts and faculty recommendations because of insufficient resources to handle requests in an expeditious manner, and because students fail to monitor the submission of materials needed to complete their applications.

Any effort to assist HBCU's efforts to produce health professionals must take into consideration the institution's capability and commitment to provide effective administrative support. Also, students should receive application information kits such as the one provided by the University of Mississippi. This kit could contain information such as:

1. A recommended timetable of events, e.g., taking and retaking tests and following-up on faculty recommendations for applicants.
2. A suggested approach to developing the "Personal Comments" section of an application.

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3. A Personal data sheet.

4. A Flow chart of the medical/dental, etc., application process.

5. A Check list of items to be turned in to the Premed Office.

6. A Faculty appraisal traffic sheet.

7. Answers to frequent questions posed by applicants to medical and dental schools.

External Support

Two types of external support for HBCUs' efforts to develop health professionals were discussed in the context of AFA's site visit and telephone interviews. These support mechanisms were peer/HBCU networks and government/foundation funding. Each is discussed below.

Peer/HBCU Networks

The most promising development is the growth of the Minority Medical Educators Association (MMEA). This is a fairly new organization which, for the first time this year, expanded its focus beyond the medical and dental professions. MMEA's purpose is to share information aimed at strengthening and ensuring the survival of educational programs whose goals are to increase the quality and quantity of minority health care providers. Data on membership and the extent to which given HBCUs are represented in the organization were not immediately available, but should be secured for use as a tool in formulating HRA's subsequent approaches to the issues addressed in the present study.

There appear to be two major obstacles to networking at the institutional level. The first is that in many instances the HBCU representatives most knowledgeable about how to develop and administer programs are busy expanding or improving their own programs. Secondly, HBCUs that might benefit most from the above representatives' technical assistance have pre-health directors who

1. Are unaware of sources of assistance;

2. Feel that their institutional capabilities, commitments, locations, etc., and students' characteristics are such that the approaches used in exemplary programs will not work; or

3. Do not feel that they need help.

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While the third constraint might prove difficult to overcome, clearly, HRA and other funding sources are in a position to influence and address the other two. This action should be a priority.

Government/Foundation Funding

Exemplary HBCU pre-health programs have several common characteristics:

- Many important services were initiated by foundation support that subsequently was replaced by federal government support;
- Foundation support continues to support innovative elements that are added to the programs to address emerging problems or further improve upon successes;
- Institutional support for the program is demonstrated by budgetary commitments to support important program elements;
- HCOP funds are the major source of federal support. These dollars are considered essential by the pre-health directors and are used to support staff and a wide array of services, including:
  - Tutorial services during the academic year,
  - Pre-freshman summer programs,
  - Summer programs for rising juniors and seniors,
  - Test preparation courses, and
  - Career days for junior and senior high school students.

Two funding issues raised in connection with interviews and/or site visit observations are:

- Funding of HBCU pre-health activities must include non-HBCU personnel and their minority students. The former often have expertise that will improve HBCU programs, and the latter may have problems not unlike those of HBCU students, depending on the characteristics and scope of pre-health programs at the majority institutions they attend; and
- Funding for pre-health programs should be sensitive to the effects of individual HBCU's emphasis on and funding in research and non-health areas of science. For example, one must determine whether relatively small institutions can simultaneously excel in teaching, research, pre-health, engineering and overall science, or, whether there should be centers of excellence for smaller areas of concentration.

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CHAPTER 4: RECOMMENDATIONS

1. Pre-health directors of institutions that produce vast numbers of successful black applicants to health profession schools agree on most aspects of the training program; thus HRA funding should be restricted to schools that have the capability and commitment to replicate the recommended model.

2. HRA should fund regional workshops for pre-health directors from all HBCUs that agree to take the minimum administrative steps (e.g., establish required credit study skills courses, reduce freshman course loads) required to approximate conditions at successful institutions.

3. HRA should print and disseminate an applicant's information kit, and other simple materials that can be used by HBCU students who often fail to gain admission to health profession schools because of logistical/administrative problems.

4. HRA should fund a contract the objective of which is to build a comprehensive data base that includes both HBCUs, majority undergraduate schools with HCOP grants, and health profession schools. The information to be obtained would be that discussed in this report. For example,

HBUCs and Majority Undergraduate Schools

- Basic Skills Activities
- Course Loads and Scheduling
- MCAT and Other Test Preparation
- Staffing
- Summer Programs

Health Profession Schools

- Support Staff and Services for Minorities
- Admission, Retention and Graduation of Minorities
- Faculty Involvement in Minority Affairs Programs

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APPENDICES

HBCU AND OTHER MINORITY GRADUATES' APPLICATION AND ADMISSION TO THE UNIVERSITY OF MISSISSIPPI MEDICAL CENTER: Admissions and Site Visit Data

Prepared by:

Anita F. Allen Associates

For submission to:

Health Resources Administration

October 1984

INTRODUCTION

Anita F. Allen Associates (AFA) was awarded a contract to study health profession schools' admission and retention of Historically Black College and University (HBCU) graduates. After conferring with the Project Office, AFA agreed to focus its data collection activities on the University of Mississippi Medical Center (UMMC) and Howard University's Medical and Dental Schools. This report, then, presents findings based on analyses of (1) minority admissions data provided by UMMC; and (2) interview data collected in the context of site visits to UMMC, Tougaloo College, Jackson State University and the University of Mississippi (Oxford).

FINDINGS BASED ON ANALYSES OF APPLICATION DATA SUPPLIED BY UNIVERSITY OF MISSISSIPPI MEDICAL CENTER (UMMC)

Findings reported in this section are based on data supplied by UMMC. Although grade point average (GPA) and Medical College Aptitude Test (MCAT) data were provided for 1981-82, 1982-83 and 1983-84 black applicants, information regarding interviews and acceptance was not available for the first year. Thus, analyses were limited to 1982-83 and 1983-84 data. The sections that follow compare GPAs, MCAT scores, application and admission rates for black graduates of both majority and Historically Black Colleges and Universities.

Applications

A total of 96 blacks applied to UMMC in 1982-83 and 1983-84. The majority, 71 percent, were HBCU graduates (see Table 1).

TABLE 1

Undergraduate Institutions Attended by Black UMMC Applicants

HBCUs	n	Non-HBCUs	n
Jackson State University	28	Millsaps	9
Tougaloo College	15	Univ. of Mississippi	7
Alcorn State	14	Mississippi State Univ.	4
Southern University	3	University of Dallas	3
Others	8	Others	5
Total	68	Total	28

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Although the ratio of HBCU/non-HBCU applicants remained constant, there was a significant ($P<.05$) overall decline in the number of black applicants from 1982 to 1983.

Admissions

Two noteworthy admissions phenomena were discovered. First, despite a decline in the number of black applicants (58 in 1982 vs. 38 in 1983) the number of blacks admitted reamined constant (n=9). Secondly, black applicants who attended non-HBCUs had significantly higher ($P<.001$) acceptance rates than their HBCU counterparts.

Since initial analyses indicated no significant HBCU/non-HBCU differences in the rate of accepted interviewees, the importance of subjective (interview-related) factors appered to be minimal. Thus, subsequent analyses focused on GPA and MCAT scores in an effort to account for differences in the acceptance rates of the two applicant groups.

These analyses revealed a number of potentially important findings, including:

- Non-HBCU minority applicants had significantly higher overall and subtest (other than biology) MCAT scores than their HBCU counterparts.
- An examination of HBCU and non-HBCU students' subtest differences reveals that while nearly all (5/6) were statistically significant, the magnitude of difference varied considerably (see Table 2).

Table 2

Mean Differences Between the MCAT Subscale Scores of HBCU and Non-HBCU Applicants

Subscale	HBCU Mean	Non-HBCU Mean	Difference
Reading	4.50	6.50	2.0 P<.005
Science Problems	4.82	6.21	1.39 P<.005
Quantitative	4.50	5.71	1.21 P<.005
Physics	5.06	6.21	1.15 P<.005
Chemistry	5.19	6.07	.88 P<.025
Biology	5.16	6.00	.84 non-sig.

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- The MCAT scores of non-HBCU applicants showed marked improvement between 1982 and 1983. This overall trend was produced by their significantly greater improvement in chemistry and their substantially greater improvement in the quantitative area.

- Evidence that HBCU grades were viewed with suspicion. While differences between the grades and MCAT scores of minority HBCU and non-HBCU admits are less dramatic than those reported in a recently published survey of national data (Lopez, 1984), they persist nevertheless (see Table 3). The fact that skepticism exists with respect to HBCU grades can also be inferred from the GPA/MCAT frequency distributions of UMMC's minority admits (see Table 4).

Table 3

Comparisons of GPA and MCAT Scores Nationally and Locally

		Science GPA	MCAT
Lopez	Tougaloo	3.4	6.1
	Non-HBCU	2.5	7.9
UMMC	HBCU	3.41	6.5
	Non-HBCU	3.11	6.7

Table 4

Distribution of GPAs and Mean Scores for UMMC Minority Admits

MCAT Scores		Science GPAs 3.29 - 3.78	Science GPAs 2.5 - 3.25
41 - 45	HBCU	2	1
	Non-HBCU	2	4
34 - 40	HBCU	3	0
	Non-HBCU	2	4

Table 4 indicates that while 67 percent of non-HBCU admits had Science GPAs below 3.25, only 17 percent of HBCU admits had GPAs that low.

- Most (57/96) HBCU applicants were graduates of Jackson State, Touglaloo or Alcorn State University. It appears, however, that there are substantial differences in the way applicants from the respective institutions are perceived. Specifically, there appeared to be a bias toward Jackson State graduates and a bias against Tougaloo and Alcorn applicants (see Table 5).

Table 5

GPAs and MCAT Scores of Jackson State, Tougaloo and Alcorn Applicants to UMMC

Group	Avg. Science GPA	Avg. MCAT
Jackson State (interviewed but not accepted)	3.03	5.30
Tougaloo (interviewed but not accepted)	3.26	5.88
Alcorn State (interviewed but not accepted)	3.10	7.83
Jackson State (Admits)	3.48	5.95

Table 3 indicates that Tougaloo and Alcorn students, who are not admitted, are nearly as strong, as or stronger than, Jackson State students who are admitted.

These findings provided the basis for items included in the site visit interview proposals (see Appendix A). They also influenced AFA's site selection decision by: (1) identifying the undergraduate institutions whose graduates most frequently apply to UMMC (i.e., Jackson State and Tougaloo); and (2) suggesting the importance of visiting a non-HBCU as a means of discovering explanations for significant differences in the MCAT.

SITE VISIT FINDINGS

The interview protocols referenced in the preceding section and attached as Appendix A, provided the information whose analysis led to the findings presented herein. UMMC interviews were conducted with: (1) minority students; (2) its Deans of Admissions and Student Affairs; (3) its Minority Affairs Director; and

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(4) faculty who were members of the Admissions Committee, were involved in the prefreshman summer program and/or taught large numbers of first-year students. These individuals were seen as being best able to assess the strengths and weaknesses of UMMC admits, minority students in general, and HBCU graduates in particular.

Interviews at the undergraduate institutions (i.e., Tougaloo College, Jackson State University and the University of Mississippi/Oxford) were conducted with Deans of the Schools of Science and Technology and/or the Directors of the Premedical Programs. The results of these interviews are presented below.

Admissions and Enrollment

Declining Minority Admissions and Enrollment

The last few years have witnessed a decline in the number of minority applicants to UMMC. In addition, only three of nine students admitted to the class of 1984 actually enrolled. Several explanations were offered. Both students and faculty cite the lack of minority recruitment and the absence of financial aid as critical problems. What both appear to ignore is that the extremely low tuition (i.e., $5,000/yr.) makes the actual cost comparable to what one might wind up paying at an institution offering considerable aid, but having much higher tuition. On the other hand, there may be some unspoken assumption operating. Students may recognize that there is a financial advantage to attending UMMC, but not to the extent that one passes up an opportunity to attend a school whose academic and race relations reputations are superior. This explanation would seem to be a logical outgrowth of the image problems that nearly all interviewees readily acknowledge.

As will be noted throughout this discussion, both students and faculty have negative perceptions of one another and, as a result, each sees the other being responsible for phenomena that all agree are problems. Within the context of the admissions issues, for example, students express the belief that the Center accepts minorities who they know are likely to have other options and, therefore, not accept admission. UMMC officials contend that minorities are late in scheduling their interviews, thus, the few slots remaining at that time must be offered to the "best and the brightest" minority applicants.

The Admissions Process

HBCU applicants appear to have a disproportionate number of late and incomplete applications, thereby reducing the likelihood of their acceptance. Their schools are often slow in submitting transcripts and faculty recommendations because of insufficient resources to handle requests in an expeditious manner. Despite written instructions from UMMC (e.g., students are advised to check on the status of their applications while at the UMMC for

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their interviews), HBCU students neglect to monitor the submission of materials needed to complete their applications. Evidence also suggests that the value of applying early is either not stressed by the HBCUs or not internalized by the students.

In the past, students also intentionally left their applications incomplete. This resulted in their being rejected for admission, but made them eligible for State subsidies in the amount of the tuition difference (i.e., between UMMC's and the school admitting them) if they were accepted elsewhere. Savvy students used this process to get State financial aid to out-of-state schools they really preferred to attend. While this loophole has since been closed, UMMC admission figures for the period covered by this study were doubtlessly affected by the tactic.

Site visit interviews also shed light on what admissions data seemed to suggest was a negative bias against Tougaloo students. In fact, several students who were well qualified but not admitted, simply failed to complete their applications after having been accepted by more prestigious schools (e.g., Stanford, Brown - with which Tougaloo has an ongoing exchange program).

MCAT Scores

As noted in the section on UMMC data, non-HBCU minority students had MCAT scores that were superior to those of their HBCU counterparts. It wasn't possible to obtain students' SAT/ACT scores as a means of determining whether MCAT differences were merely a reflection of decisions made (four years earlier) by stronger high school students to attend non-HBCUs. However, the dramatic increase in the MCAT scores of non-HBCU minority students between 1982 and 1983 led us to explore the possibility that those institutions were, in fact, doing something differently to prepare their students to score well on the exam. AFA discovered that a variation of the Kaplan preparatory sequence was being used at "Ole Miss." The tapes and print materials were being rented to students for a nominal fee ($40/two years) and were producing overall MCAT score gains averaging 1 point -- approximately the magnitude of the increase shown among non-HBCU minority applicants to UMMC. Since neither Jackson State, Tougaloo nor other HBCUs attended by student interviewees was using a preparation sequence, it can be assumed that the Graduate Admissions Preparation (GAP) was yielding positive results that contributed to score gains for non-HBCU minority applicants.

Retention

A number of factors typically operate to affect the likelihood that minority students admitted to scientific programs will be retained and graduate. This section will consider a number of factors typically associated with increased success.

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Pre-Entry Summer Program

The pre-entry summer program is an intervention strategy with demonstrated effectiveness. Although there have been no efforts to document the outcomes of the UMMC program, other programs, with essentially the same thrust and content, have been linked with improved student performance.

The UMMC program focuses on: (1) study skills; (2) psychological adjustment (e.g., stress management); (3) an early start on first-year anatomy and biochemistry; and (4) medical vocabulary. This nine-week program served students who had been admitted to UMMC and other medical schools.

Prior to last summer (1984), there was also a summer program for undergraduate pre-medical students. Like its pre-entry counterpart, the program served students enrolled in a number of different institutions. The pre-entry program focused on MCAT preparation, psychological adjustments and study skills. It was not offered this past summer due to insufficient funds.

As the reader examines observations that are cited in the remainder of this section, it should become apparent that whatever the benefits of this particular program, its emphasis must be continued as students matriculate at UMMC. In light of plans calling for the operations of a three-year summer program to be funded by the Health Resources Administration (HRA), subsequent discussions of site visit findings will, whenever possible, be discussed in terms of their implications for that program.

Perceptions Regarding Student's Undergraduate Preparation

Students' Reading Skills -- There is widespread support for the position that reading is generally the biggest deficiency among HBCU students. This perception is consistent with MCAT results which indicate that student scores are lowest in the reading and quantitative areas. Based on the responses of individuals directing the undergraduate HBCU pre-medical programs, they recognize the problem, but don't know what to do about it. Respondents indicated that HBCUs' study skills courses for pre-medical students are not part of the required curriculum and have success criteria which probably bear little relationship on a student's ability to read medical school material. Moreover, one respondent indicated that because professors know that students have reading problems, they lecture in ways that minimize the need for outside reading. He felt that by spending more time talking to students, faculty subsconsciously achieved student learning objectives at the expense of helping (students) develop a capacity for independent learning. Clearly, the importance of this issue dictates that it be examined further.

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Many HBCU students and faculty hold widely disparate views concerning the former's ability and undergraduate preparation. Overall, faculty views appear to be reflective of the program's improvement (i.e., all agreed that students were getting better). However, there remain traces of the negative attitudes generated by the serious problems experienced by the class that entered in 1981. During the 1981-82 academic year, the Minority Affairs Office had no full-time director; thus, at a time (first year) when students experience their greatest difficulty, this class was lacking a major source of support. There are also very negative perceptions of Jackson State students' preparation among some faculty members. This is particularly important because of the relatively large number of students it sends to UMMC and because Jackson State University is to be the subcontractor responsible for operating the UMMC summer program funded by HRA.

In many regards, UMMC's HBCU students' self-perceptions are typical. They feel that their preparation is stronger than it, in fact, is. Also, they often perform poorly or marginally on first exams, feel compelled to work through the problem on their own -- because their past experiences tell them they are bright students -- and do not consider seeking help until second exams produce the same results. Inherent in the above scenario are several important points: (1) the diagnostic aspect of the summer pre-entry program must be used to counsel students on their weaknesses and the importance of help-seeking as a means of addresing them; (2) a program stressing strategies for success (e.g., why and how to interact with faculty) such as the one operating at the University of Mississippi, should be institutionalized at HBCUs, so that counterproductive perceptions and behaviors can be avoided once students enroll in health profession schools; and (3) the Minority Affairs Program must make faculty aware of the psycho-dynamics involved in students' perceptions and behaviors, so that they can be more objective in extending offers of help to students and/or helping students to understand the pitfalls associated with rejecting those offers.

Non-Academic Problems

Psychological adjustment -- Although the pre-entry summer program included a psychological adjustment component. Two problems in this area were frequently cited by both students and faculty. Students appear to be plagued by passivity and a tendency toward isolation. A common example of each problem is presented below.

- Passivity is demonstrated by students not having articulated their concerns regarding the inadequacy of UMMC's academic support mechanisms. They have failed to approach either

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the Minority Affairs Director or the UMMC administrators regarding their concerns. While the Director recognizes the need for additional services, he feels that things will remain the same unless students take a more assertive posture. The validity of the Director's position is underscored by administrators' comments that they assume all is well, since they haven't conducted a formal evaluation (of Minority Affairs) and have heard nothing to indicate the existence of problems.

- Isolation is evident because students feel that they must solve their own problems. To their credit they have initiated some steps (e.g., establishing a test file, encouraging the establishment of a "Buddy System). On the other hand, they are cut off from some of their most readily available resources. Many HBCU students feel that: (1) white students who help them become targets of faculty retaliation; (2) non-HBCU black students are too concerned about mainstreaming (with white students) to associate with other black students; and (3) subjective faculty judgments (about them) may be adversely affected if they make known the fact that they are experiencing difficulty. Irrespective of the accuracy (or inaccuracy) of these perceptions, they clearly have serious implications for students' performance and must be addressed by a straight-forward approach involving the Minority Affairs Office, the UMMC faculty and HBCU students.

Lack of information and insight -- When compared with the experiences of minority students who attend majority institutions, one can cite two areas in which HBCU students' opportunities for gaining valuable insights are likely to be limited. They are likely to have fewer opportunities to develop insights into the medical profession and the commitment it requires. Seminar series conducted by practitioners, summer employment in medical settings, travel to professional conferences, etc., require resources and a network that are simply more difficult to establish in the context of an HBCU.

Because HBCUs tend to be teaching institutions, their students are less aware of the importance of faculty research as a promotional consideration. Thus, they are naive concerning a major factor underlying what many students typically perceive as inadequate faculty accessibility. Perceiving faculty as inaccessible also has more wieghty consequences for HBCU students, given the other conditions and perceptions cited in preceding sections (e.g., faculty bias in subjective judgments), they may consider the behavior racist and avoid future non-classroom interaction).

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Conflicting Responsibilities -- While it was not possible to determine the extent to which the problem was characteristic of HBCU (vs. non-HBCU or non-minority) students, there was some evidence to suggest that the counseling/advising process must make students aware of and help them devise strategies for coping with family and financial responsibilities in ways that don't make their attrition a certainty.

Support Mechanisms

As discussed previously, the availability of support services has -- with the exception of tutoring -- been primarily confined to the summer program. This is particularly distressing since one of the primary advantages of a summer program is the opportunity it provides for diagnosis and prescription. If a student is determined to have problems in an academic area during the summer, it makes little sense to then wait until after the examination (of the fall term) to confirm the diagnosis. Continuity and responsiveness in the delivery of services can only occur if the Minority Affairs program and the minority students collaborate to increase their communication and interaction with the broader UMMC community.

By increasing the involvement of those faculty persons who appear to be "friends," the program can: eliminate burdensome misperceptions by increasing awareness of program goals and activities; give supporters a sense of ownership by involving them in program planning and implementation; provide students with opportunities for informal faculty contact; gain support for additional requests seeking resources that may be needed (e.g., a counselor to reduce the Director's work load) to improve services and, as a result, student performance. This same type of active outreach should be made in an effort to gain greater support from black doctors and dentists who are on UMMC committees and others who wield political clout in the community, but who may be from the "nobody helped me" school.

OVERALL ASSESSMENT

It appears that progress is being made at UMMC. The Minority Affairs Director is just beginning his third year and there is, for the first time, a reasonably strong cadre of upper-level students with insights and understanding that can help their younger peers. Minority student retention is about equal that of whites, although the former are somewhat more likely to have to repeat a year. Earlier and more frequent testing is a major UMMC change that operates to the advantage of all students, but particularly HBCU students who seem to have more difficulty identifying "what they don't know." The section that follows offers suggestions for continued improvement in HBCU and other minority students' UMMC experience.

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RECOMMENDATIONS

While these recommendations are based on the experiences of HBCU students at one medical/dental school, some will be more broadly applicable. For example, some non-HBCU minority students are likely to have had undergraduate experiences different from those of UMMC blacks who attended Millsaps or the University of Mississippi (Oxford). If these students' programs lacked or failed to ensure their exposure to the types of resources available at Ole Miss, then these non-HBCU students will probably be more like their HBCU counterparts and will benefit greatly from their program's adherence to the recommendations. Conversely, strong HBCU students, who tend to go to schools other than UMMC, may not require all of the proposed assistance. They would, nevertheless, be likely to benefit from at least some aspects of it.

HBCUs

Ongoing Services

1. Advising should develop a handbook that addresses issues such as which courses and majors -- at the particular school -- best prepare students for health professional schools (e.g., should they take the chemistry course for majors or the course for pre-meds?). Students' course loads are another source of concern. If students are to develop the subject mastery required for later success it may be necessary for them to take fewer courses and fewer technical courses -- despite the implications this strategy may have for students' breadth or state funding that may be based on number of hours taken by students.

2. A study skills course must be offered for credit and made part of the required curriculum. Materials demonstrated to be effective in improving reading and other skills when used with students similar to those in the particular target population, must be identified and used.

3. Counseling services must stress assertiveness and independence training as well as approaches for developing realistic self-perceptions.

4. Lecture series, summer job development and other strategies for providing career insights and exposures must be developed. In schools such as Tougaloo which has an exchange program with Brown University, students participating in this program should be provided opportunities for formal sharing of their experiences with non-participants.

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The Junior Seminar

A junior seminar that begins the process previously initiated in the pre-entry summer program, should be developed. This course should focus on MCAT preparation (probably using GAP) and stress the advantages of taking the exam more than once. It should flow-chart the applications process stressing deadline adherence and students' responsibility for monitoring the status of their submission. The course should also deal with the other aspects of the admissions process (e.g., interviewing, options if not accepted). Topics for inclusion in the portion of the course allocated to psychological adjustment should include strategies for: coping with white environments; help-seeking; interacting with faculty in the context of a research-oriented institution; and how to use a minority affairs program, community health professionals and other potential resources.

UMMC

The following actions should be taken by UMMC and/or its Minority Affairs Office:

1. The program's positive accomplishments, its advantages (e.g., low cost) and plans for continued improvements should all be publicized in an effort to improve the institution's image and attract additional minority students.

2. Additional professional staff should be hired for the Minority Affairs Office. This would reduce the Director's burden, increase students' sense of the Center's commitment to minority students and facilitate the implementation of support services that could benefit non-minority as well as minority students.

3. More communication with and involvement of UMMC faculty should be established as a high Minority Affairs priority;

4. The University of Mississippi's (Oxford) Pre-medical Advisor should be retained to ser e as a consultant in the summer program. This would enable him to provide technical assistance to HBCU adivsors and might also increase the likelihood of UMMC faculty involvement -- which might otherwise be low given their attitudes toward the merits of the subcontractor, Jackson State.

5. Greater efforts should be made to create a cohesive minority student body (at UMMC) that can engage in self-help and better serve as a facilitating mechanism for new matriculants.

6. Needs diagnosed during the summer program must be addressed from the outset of the fall term and not after initial exams. Also, tutors must be carefully screened to ensure their sensitivity to service recipients as well as their technical competence.

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Good morning, my name is Benson Penick. I am representing the firm of Anita Allen Associates (AFA) which is conducting a study for the Health Resources Administration (HRA). This study was funded due to concerns about predictions that the number of minority health professionals will decline substantially over the next decade. The study's special emphasis is health profession schools' admission, retention and graduation of students who attended Historically Black Colleges and Universities (HBCUs) as undergraduates.

As part of its approach to documenting the experiences of minority students -- and particularly HBCU graduates -- who apply to and attend health profession schools, AFA is conducting interviews at Howard University Medical and Dental Schools and the University of Mississippi Medical Center. The design calling for interviewing at one-health professional school associated with an HBUC and at another whose qualification is with a majority institution is seen as an effective approach for developing an initial understanding of situational similiarities and differences in black students' experiences.

The questions I will be asking students, faculty and administrators today are based on admissions data, previous interviews and hypotheses presented in the literature. Your responses will be invaluable as we seek to help HRA develop strategies for addressing this most important issue. Please be assured, your remarks will be held in strict confidence and our only references in reporting will be in terms of respondent category (e.g., a student, a faculty member).

Are there any questions? If not, I'd like to thank you for agreeing to assist us and begin asking the questions.

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UNDERGRADUATE FACULTY PROTOCOL

1. A comparison of 1982 and 1983 data indicate that there was a 2 percent decrease in the number of Howard University undergraduates applying to Howard University Medical School. What do you feel was responsible? Is it reflective of the predicted decrease in minority health professionals over the next decade?

2. It has been suggested that an MCAT preparation course is a major advantage for students seeking admission to medical school, do you agree? Is this preparation readily available to Howard University undergraduates?

3. MCAT scores and medical/dental faculty perceptions seem to suggest that reading is a particularly acute problem for many students -- especially those from HBCUs. Have you found that to be true of Howard University undergraduates? Do you do anything special to address the problem?

4. One might expect that the health profession schools' admissions process would favor applicants enrolled in its undergraduate university, but this appears not to be the case at Howard. In fact, it appears tha marginal students from other institutions may stand a better chance to be admitted than somewhat stronger Howard University applicants. Would you agree? Why or why not?

5. What have been the admission, retention and graduation experiences of your students who've applied to other health profession schools? Are there differences among particular schools or types of schools?

6. A number of major health profession schools' faculty members indicate that HBCU graduates often have psychological adjustment problems (e.g., isolating themselves from the broader institutional comunity, lack of assertiveness). Do you do anything to address these issues with your undergraduates?

7. What do you consider to be the three most important factors associated with successful completion of medical school? Is your school/department doing anything special to develop these capabilities in its graduates?

8. Any additional comments? Questions?

Thank you for your time and cooperation.

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MEDICAL STUDENT PROTOCOL

1. What have you found to be the most difficult aspect of medical/dental school?

2. What undergraduate insitution did you attend? How well would you say it prepared you for successfully competing in medical/dental school? What aspect of that preparation was particularly good? What was especially weak? Are the experiences of black students here any different from those of whites? Any unique experiences for HBCU graduates?

3. Based on your experiences and those of your peers, what would you say is the biggest difference between the preparation black undergraduate students receive at HBCUs vs. majority institutions?

4. Our preliminary findings suggest that MCAT preparation courses are an important advantage for those seeking admission to medical school. Do you agree? Who provided the course, for those of you who took it?

5. Are there any services that the mnedical/dental school could provide to help you improve your performance?

6. How would you compare your experiences here with those of other students you know from undergraduate school who are now attending other medical schools?

7. Is there any advice you would give undergraduates from your alma mater who may be considering attending the Howard University Medical School?

8. Any other comments?

Thank you for your time and cooperation.

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PROFESSIONS SCHOOL FACULTY

1. Are you a member of the Selection Committee? If yes, answer the following questions?

1a. Are there, based on the performance of past students, backgrounds which are associated with academic success (e.g., type of undergraduate school, type of major)?

1b. What are the interview factors most commonly associated with a student's acceptance or rejection? I.e., why do you reject interviewed students?

All faulty to be asked:

2. What do you consider to be the most important factors associated with students successfully completing medical school? Are they any different for black students? For HBCU graduates?

3. What are the three most significant deficiencies among students admitted to this school? Are they any different for black students? For HBCU graduates?

4. What has been your retention rate? Does the rate differ for HBCU graduates? for black students? Are there any actions that could be taken to improve either overall, black student or HBCU graduates' retention?

5. Any additional comments?

Thank you for your time and cooperation.

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ADMINISTRATOR'S PROTOCOL

1. A recent journal article noted that black students who attended majority undergraduate schools had significantly lower science grade point averages but significantly higher MCAT scores than HBCU graduates. Is this pattern evident among black students admitted to the Howard University Medical School? Why or why not?

2. There is some evidence to suggest that the above finding is in part due to differences in the availability of MCAT preparation courses. Are you aware of any HBCUs that make widespread use of preparation courses? Which ones? Do they produce positive results?

3. The data provided by the Howard University Medical School indicate that 1983 HBCU applicants had MCAT Subtest scores which were considerably higher than those of their 1982 counterparts. The exceptions were in reading and quantitative skills where a decline was noted. Do weaknesses in either of these areas pose particular problems for students' successful completion of the medical curriculum?

4. Do you find that students from HBCUs have a disproportionate number of late and incomplete applications?

5. On the surface, Howard University's 1982 and 1983 data don't seem to indicate a decline in applications or admits. Could it be that the 18% (4./67) vs. (33/76) decrease in the percentage of matriculating admits is reflective of a smaller pool (i.e., fewer people sending more applications)?

6. What is the Special Admissions Program? Can it be assumed that all students admitted without MCATs were part of this program?

7. Do you feel that students, in general, accurately perceive their academic strengths and weaknesses? Do they seek help in sufficient time for the assistance to make a difference? Are there any systematic differences between student subgroups (e.g., blacks, HBCU graduates)?

8. Are there any special strengths/weaknesses that are characteristic of Howard University Medical Students, in general? minority students? HBCU graduates? What can schools do to develop those strengths? Address those weaknesses?

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9. Are there any HBCUs that you feel do a particularly good job in preparing students to succeed in medical school? What's responsible? Does it account for the fact that Xavier and Morehouse have larger numbers of admits or that Oakwood and Morehouse have more admits with lower scores on predictive indices?

10. Are there differences in the retention and graduation rates of students from different HBCUs? In the retention and graduation of students who attended HBCUs versus non-HBCU undergraduate schools?

11. What kinds of special support services do you offer?

12. Any additional comments? Questions?

ANITA F. ALLEN ASSOCIATES, INC.
Specialists in Management, Training and Organization

INTERVIEW PROTOCOLS

AND

ON-SITE DATA COLLECTING PLAN

1201 CONNECTICUT AVENUE, N.W. WASHINGTON, D.C. 20036 (202) 296-2249

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INTRODUCTION TO PROTOCOL

..

Good (morning, afternoon), my name is Dr. Benson Penick. I represent the firm of ANITA F. ALLEN ASSOCIATES, INC., which has been contracted by the Health Resources Administration to examine the admission and retention of minorities in health professions schools. Of special interest are the experiences of historically black college and university (HBCU) graduates.

We would like to ask you a series of questions based on analyses of data received from the University of Mississippi Medical Center and phenomena observed nationally and reported in the literature.

Your responses will be held in strictest confidence; thus, we encourage you to be candid and complete in addressing the questions. Neither individuals nor institutional identifiers will be reported; so please feel free to express all opinions, positive or negative, that you feel may be helpful to us in examining this important issue.*

Are there any questions, before we begin?

* For faculty only, at this point the following insertion will be read: "In order that we might correlate your assessments of students' strengths and weaknesses we have asked the administration to prepare a student roster. If the characteristics you're citing are particularly true of a given student(s), please indicate that in the context of your response."

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SITE VISIT PLAN

Site visits to be conducted in connection with the assessment of black student admission and retention at the University of Mississippi Medical Center will be conducted over a three day period. The three days will be allocated in the following manner:

Day 1. UM Medical Center--The day-long visit will involve interviews with students, faculty, administrator(s) and a review of data (e.g., retention, GPAs) not previously provided.

Day 2. Jackson State--Undergraduate faculty associated with the premedical program will be interviewed. This visit is predicated on the notion that JSU is the leading supplier of black applicants to U.M. Medical Center and also has the largest number of graduates enrolled (among HBCUs).

Day 2. Tougaloo--Tougaloo is another major supplier of black applicants. Their students, however, seem not to get admitted despite what often appear to be superior credentials. An additional rationale for Tougaloo's inclusion, is its proximity to Jackson; this permits AFA to conduct the visit in the afternoon, following its morning visit to JSU.

Day 3. University of Mississippi (Oxford)--This visit was added to the originally proposed plan, in order to determine whether there are special programs, strategies underlying the improvement in MCAT scores. It will also permit AFA to explore hypotheses developed in the course of visits to the Medical Center and HBCUs in the Jackson area. University of Mississippi is also in sufficiently close proximity to Alcorn State to permit both visits to be conducted in a single day.

Day 3. Alcorn State--Alcorn is the other major source of black undergraduates seeking admission to the University of Mississippi Medical Center. The rationale for its inclusion is similar to those cited for Tougaloo.

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UNDERGRADUATE FACULTY PROTOCOL

1. When we examine the number of black applicants to the University of Mississippi Medical Center (UMMC), we noted an overall decline in the number of black applicants since 1982, and also a decline in the percentage of HBCU applicants admitted. Do you feel this is a trend? If yes, what do you think is responsible?

2. At the same time the percentage of HBCU applicants admitted to UMMC was declining, the percentage of admitted black applicants from majority institutions was increasing. What do you feel is responsible for this phenomenon?

3. We found that despite the decline in the number of black applicants and the percentage of admitted HBCU applicants, many blacks' MCAT scores were substantially improved. With respect to that phenomenon, how would you account for the across the board improvements in reading, quantitative and biology subtests, but evidence of substantial improvements in other areas (i.e., chemistry, physics and science problems) only among the graduates of majority institutions? Is your school engaged in any systematic efforts to improve scores?

4. Do you feel that recommendations from HBCU faculty are accorded the same weight as those from the faculty of majority insitutions? Can you cite any evidence to support your position?

5. Do you feel that there are biases which operate to the (1) advantage of University of Mississippi, (2) disadvantage of HBCU graduates seeking admission to the UMMC? Are graduates from JSU, Alcorn and Tougaloo perceived differently? (Compare responses with the data which suggest a JSU bias.) If yes, what can be done about it?

6. How have your students fared in the interview process at UMMC? Do you feel that the students selected (if any have been) were the strongest to apply?

7. What have been the experiences of your students who've applied to other health professions schools? Are there differences among particular schools or types of schools?

8. What do you consider to be the three most important factors associated with successful completion of medical school? Is your school/department doing anything special to develop these capabilities in its graduates? (For University of Mississippi, ask about black graduates.)

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UNDERGRADUATE FACULTY PROTOCOL (Cont.)

9. Would you say that quantitative skills, reading and their application to the solution of science problems, are your students' biggest deficiencies--as suggested by MCAT data? If yes, what can be done to improve scores among graduates of majority institutions? If you disagree with the statement, why is that the pattern of the test results? Why is there less of a problem in course-related areas such as chemistry and biology?

9. (For University of Mississippi Undergraduate Faculty Only.) Would you say that quantitative skills, reading and their application to the solution of science problems are your black students biggest deficiencies? Is the situation different for majority students?

10. What percentage of your students who apply to medical schools are accepted? What percentage of the admits graduate? (For University of Mississippi Undergraduate, also ask figures for black students.)

11. Any additional comments? insights?

Thank you for your time and cooperation.

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INTERVIEW PROTOCOL FOR ADMINISTRATORS OF THE HEALTH PROFESSIONS SCHOOLS

1. Your data indicate a decline in the number of minority applicants, since 1982. What do you feel is responsible for the decline?

2. Despite having fewer applicants, the number of admits remained the same. How do you account for this? Is it related to the improved MCAT scores--noted particularly among the graduates of non-HBCUs? Did the percentage of minorities in the class remain the same?

3. How do you, or do you, weight specific criteria in reviewing applications?

4. Are there, based on the performance of past students, backgrounds which are associated with academic success (e.g., type of undergraduate school, type of major)? Compare with data that seem to suggest a bias toward non-HBCU students and HBCU students from JSU vs. Alcorn or Tougaloo.

5. Do you quantify responses to item III in the Premedical Faculty Appraisal Form? Do members of the Selection Committee typically know the rater or is the rating considered without the identity of the rater being revealed? Again, this is an effort to explain what appear to be biases.

6. What are the interview factors most commonly associated with a student's acceptance or rejection? I.e., why do you reject interviewed students? This might help to explain why the students with the highest and third best MCATs--both from "good" schools, Vandy and Northwestern--were interviewed, but not admitted.

7. What do you consider to be the most important factors associated with students successfully completing medical school? Are they any different for black students? Students from HBCUs?

8. What are the three most significant deficiencies among students admitted to UMMC? Are they any different for black students (vs. whites)? For HBCU graduates?

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INTERVIEW PROTOCOL FOR ADMINISTRATORS
OF THE HEALTH PROFESSIONS SCHOOLS (Cont.)

9. What has been your retention rate? How does the rate differ for black students? HBCU grads? Are there any actions that could be taken to improve either overall or black student retention?

10. Any additional insights? comments?

Thank you for your time and cooperation.

PROFESSIONS SCHOOL FACULTY

1. Are you a member of the Selection Committee? If yes, answer the following questions?

1a. Are there, based on the performance of past students, backgrounds which are associated with academic success (e.g., type of undergraduate school, type of major)? Compare with data that seem to suggest a bias toward non-HBCU students and HBCU students from JSU vs. Alcorn or Tougaloo.

1b. What are the interview factors most commonly associated with a student's acceptance or rejection? I.e., why do you reject interviewed students? This might help to explain why the students with the highest and third best MCATs--both from good schools, Vandy and Northwestern--were interviewed, but not admitted.

All faculty to be asked:

2. What do you consider to be the most important factor associated with students successfully completing medical school? Are they any different for black students?

3. What are the three most significant deficiencies among students admitted to the UMMC? Are they any different for black students?

4. What has been your retention rate? Does the rate differ for black students? Are there any actions that could be taken to improve either overall or black student retention?

5. Any additional comments?

Thank you for your time and cooperation.

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MEDICAL STUDENT PROTOCOL

1. What have you found to be the most difficult aspect of medical school?

2. What undergraduate institution did you attend? How well would you say it prepared you for successfully competing in medical school? What aspect of that preparation was particularly good? What was especially weak? Are the experiences of black students here any different from those of whites? Any unique experiences for HBCU graduates?

3. Based on your experiences and those of your peers, what would you say is the biggest difference between the preparation black students receive at HBCUs vs. majority institutions?

4. Our data indicate that MCAT scores for black students accepted at UMMC improved last year. Do you recall any changes in the premedical curriculum of your institution that may be responsible for the improvement?

5. Are there any services that the school could provide to help you improve your performance?

6. How would you compare your experiences here with those of other students you know from undergraduate school who are now attending other medical schools?

7. Is there any advice you would give undergraduates from your alma mater who may be considering attending the UMMC?

8. Any other comments?

Thank you for your time and cooperation.

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